

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1-9 (Canceled)

10. (Currently Amended) Intervertebral nucleus prosthesis comprising [[an assembly comprising at least one]] a cage and [[at least one]] a substantially spherical body or ball, wherein:

said [[assembly]] prosthesis has dimensions adapted to a biological intervertebral nucleus,

said cage has a shape elongated in one plane,

said substantially spherical body or ball is made of a substantially rigid, substantially non-oxidizing, biocompatible material, is captured non-displaceably in said cage, is [[freely]] rotatable about at least two axes through its center within the cage, and protrudes at both opposite sides of said elongated plane of said cage in the form of substantially spherical caps.

11. (Previously Presented) Prosthesis in accordance with claim 10, wherein the cage is substantially planar, is curved in said plane and is substantially symmetrical in relation to a plane that is transverse to the plane of said cage and that includes a center axis in said cage.

12. (Previously Presented) Prosthesis in accordance with claim 11, wherein in cross section, the cage has the shape of an isosceles trapezoid comprising a narrow side and a wide

side, with the ends of the curved shape arranged at the narrow side thereof, the trapezoidal shape facilitating displacement in the plane of the cage and preventing substantial rotation of the prosthesis about its center axis.

13. (Currently Amended) Prosthesis in accordance with claim 10, wherein the cage comprises a casing made of a light, substantially rigid, substantially non-oxidizing, biocompatible material, and contains a mass made of a material with a minimum coefficient of friction, and wherein a space for accommodating the movable substantially spherical body(s) is provided in the interior of the mass, said substantially spherical body(s) being held trapped but [[freely]] rotatable therein about at least two axes through its center.

14. (Previously Presented) Prosthesis in accordance with claim 13, wherein said casing comprises titanium.

15. (Previously Presented) Prosthesis in accordance with claim 14, wherein said mass comprises polyethylene.

16. (Previously Presented) Prosthesis in accordance with claim 13, wherein said mass comprises polyethylene.

17. (Currently Amended) Prosthesis in accordance with claim 10, wherein the cage has substantially the shape of an isosceles trapezoid and holds a plurality of substantially identical substantially spherical bodies which each touch, on both sides of the horizontal center

plane of the cage, a substantially identical imaginary plane lying outside the cage, and which are located on both sides of the cage at the corners of an isosceles triangle.

18. (Currently Amended) Prosthesis in accordance with claim 10, wherein the [[cage consists of two substantially identical single components]] prosthesis comprises two cages each having a cross section in the shape of an isosceles trapezoid, which are arranged such that their center planes extending at right angles to the parallel bases and along their center lines are substantially parallel to each other, and wherein the large bases of the trapezoidal [[single components]] cages lie in a substantially vertical plane, said [[single components]] cages being connected to each other by at least two elastic connecting elements which extend at right angles to the center planes of [[the single components]] said cages and are located in the end area of the large axis forming a common tangent to the sets of substantially spherical bodies which are each located on the outside of an arrangement of substantially spherical bodies at the corners of isosceles triangles, said triangles being oppositely orientated.

19. (Currently Amended) Prosthesis in accordance with claim 17, wherein the [[cage consists of one single component or several single components with the]] substantially spherical bodies [[having]] have a volume which, taking into consideration the function of the cage as holder for the substantially spherical bodies, is adapted as well as possible to the volume of the biological nucleus, thereby to ensure a self-positioning of the prosthesis, which allows the prosthesis to always be in the anatomical position and the natural movements between two vertebral bodies to be restored.

20. (Currently Amended) Prosthesis in accordance with claim 10, wherein the height of the substantially spherical cap protruding from the cage is approximately a tenth of the diameter of the substantially spherical body.

21. (Currently Amended) A method for implanting, within the confines of an annulus of an intervertebral disc, an intervertebral nucleus prosthesis comprising a substantially planar cage in which at least one substantially spherical body or ball is captured non-displaceably but [[freely]] rotatably about at least two axes through its center within the cage, said substantially spherical body or ball being made of a substantially rigid, substantially non-oxidizing, biocompatible material, with a diameter adapted to a biological nucleus and protruding at both opposite sides, in the form of substantially spherical caps from the cage, comprising the steps of:

for insertion of the prosthesis consisting of the cage and substantially spherical bodies, making an incision endoscopically in an annulus that is disposed between two vertebral bodies, thereby providing an opening which is just large enough to reach and remove a damaged nucleus;

removing said damaged nucleus through said incision;

substantially immediately after removal of said damaged nucleus, inserting, through the same incision, said nucleus prosthesis which automatically centers itself in the cavity formed by the removal of said damaged nucleus, and

subsequently closing said incision.

22. (Previously Presented) The method of claim 21, wherein said incision is closed by a suture.

23. (Currently Amended) A prosthesis, adapted to replace a damaged nucleus of an intervertebral disc comprising an annulus, said prosthesis comprising:

a cage of a substantially planar shape that is adapted to fit within said annulus and is thinner than a space that is adapted to be maintained between next adjacent vertebra that are adapted to be separated by said disc, and

at least one substantially spherical body or ball disposed non-displaceably in said cage and [[freely rotatable]] rotatably about at least two axes through its center [[so as to be movable in two directions in the plane of said]] within the cage, and made of a substantially rigid, substantially non-oxidizing, biocompatible material, wherein said substantially spherical body(s) has a diameter that is greater than the planar thickness of said cage and is adapted to protrude from both opposite sides of said cage in the form of substantially spherical caps, wherein said spherical body or ball has a diameter such that it is adapted to be disposed in said space between said next adjacent vertebra and within the confines of said annulus.

24. (Currently Amended) A prosthesis as claimed in claim 23 wherein said substantially spherical body or ball is not substantially elastically deformable.